

# SECURING DEVICE FOR A WINDOW

## BACKGROUND OF THE INVENTION

### 5 1. Field of the invention

The present invention relates to a securing device for an angularly displaceable window, which includes a fixed support, a slide rod pivoted to the window and displaceably passed through the fixed support, and a knob screwed into the fixed support for securing the slide rod in position  
10 after the window is moved to an intended position, more particularly one, which is equipped with a pair of easy-to-fit curved pads in the fixed support for preventing scratches from being formed on the slide rod when the rod is moved relative to the fixed support.

### 2. Brief Description of the Prior Art

15 Besides common functions such as allowing sun and air to pass into a room, windows can be provided with decorative functions. Among all kinds of windows, angularly displaceable ones can be moved to such an open position that the room is provided with a bigger opening for allowing more sunlight and air to pass into the room. And, an angularly  
20 displaceable window can be moved to any position according to the user's needs therefore it is very convenient to use.

Referring to Figs. 5 and 6, a conventional securing device is provided to an angularly displaceable window, which device includes a

fixed support body 1, a knob 13, and a slide rod 2. The fixed body 1 is fixedly disposed near to the window, and has an axial hole 12, a transverse through hole 11 communicating with the axial hole 12, and screw threads around the axial hole 12 on an inner side. The slide rod 2 is pivoted to the window at one end, and passed through the transverse through hole 11 of the fixed body 1. And, a stopping block 22 is joined to the other end of the slide rod 2 for preventing the rod 2 from falling out of the fixed body 1. The knob 13 is screwed into the axial hole 12 of the fixed body 1.

Thus, when the window is angularly displaced for adjustment of position, the slide rod 2 will move relative to the fixed body 1, and the window will be stopped from moving beyond a completely open position where the stopping block 22 comes into contact with the fixed support body 1. After the window is moved to an intended position, the knob 13 is screwed further into the fixed body 1 to secure the slide rod 2 to the fixed body 1 for preventing the window from moving.

However, because there is no protection for the slide rod 2, the slide rod 2 will come into contact with the edge of the transverse through hole 11, and scratches are prone to form on the same while the window is being angularly displaced between the completely open position and the closed one. Consequently, rust is prone to form on the slide rod, which will make the slide rod unpleasant to look at and unable to move smoothly relative to the fixed body 1.

## SUMMARY OF THE INVENTION

It is a main object of the present invention to provide a securing device for a window to overcome the above disadvantage.

5       The securing device of the present invention includes a fixed support, a slide rod pivoted to the window and displaceably passed through a transverse hole of the fixed support, and a knob screwed into an axial screw hole of the fixed support for securing the slide rod after the window is moved to an intended position. Furthermore, a pair of  
10   curved pads is used for protecting the slide rod from scratching of the fixed support; each pad has a curved main body with convex and concave sides, an engaging protrusion on the convex side, and several ribs formed around and connected to the engaging protrusion. The pads are respectively fitted in the axial hole, and the fitting cavity with the  
15   concave sides facing each other, and with the ribs being pressed against inner sides of the fixed support for preventing the pads from falling off.

## BRIEF DESCRIPTION OF THE DRAWINGS

20       The present invention will be better understood by referring to the accompanying drawings, wherein:

Fig. 1 is an exploded perspective view of the securing device for a

window according to the present invention,

Fig. 2 is a cross-sectional view of the securing device for a window according to the present invention,

Fig. 3 is a top view of the securing device of the present invention  
5 joined to a window for use,

Fig. 4 is a cross-sectional view of the securing device of the present invention, in the securing position,

Fig. 5 is an exploded perspective view of the conventional securing device for a window as described in the Background, and

10 Fig. 6 is a cross-sectional view of the conventional securing device.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to Figs. 1 and 2, a securing device of the present invention is provided for use with an angularly displaceable window 4  
15 (Fig. 3), which device includes a fixed support body 1, a slide rod 2, a pair of curved pads 3, and a knob 13.

Referring to Fig. 3 as well, the fixed body 1 is fixedly disposed near to the window, and has an axial screw hole 12, a transverse through hole 11 communicating with the axial screw hole 12, a fitting cavity 111  
20 adjacent to the transverse through hole 11 and right opposite the axial hole 12. The knob 13 is screwed into the axial screw hole 12 of the fixed support body 1.

Each of the curved pads 3 has a curved main body with convex and

concave sides, an engaging protrusion 31 on the convex side, and several ribs 32 formed around and connected to the engaging protrusion 31. The engaging protrusions 31 of the curved pads 3 are respectively positioned in the axial screw hole 12, and the fitting cavity 111 of the fixed body 1 via the transverse hole 11 with the concave sides thereof facing each other, and with the ribs 32 being pressed against the inner sides of the fixed support body 1; thus, the curved pads 3 can't fall out of the fixed support body 1 easily.

The slide rod 2 is pivoted to the window 4 at one end, and passed through the transverse through hole 11 of the fixed body 1. And, a stopping block 22 is used for preventing the slide rod 2 from separating from the fixed body 1. The stopping block 22 has a hole 221 as well as screw threads around the hole 221 on an inner side thereof, and is screwed onto other end 21 of the slide rod 2, which is formed with screw threads on an outer side.

Thus, referring to Fig. 3, when the window is angularly displaced for adjustment of position, the slide rod 2 will move relative to the fixed body 1, and the window will be stopped from moving beyond a completely open position where the stopping block 22 comes into contact with the fixed support body 1. And, the curved pads 3 prevent the slide rod 2 from touching the fixed support body 1 with the concave sides thereof abutting the slide rod 2, as shown in Fig. 2. Consequently, the slide rod 2 won't touch the edges of the transverse hole 11, and

scratches won't be formed on the slide rod 2 when the window is displaced between the completely open position and the closed one for adjustment. After the window is moved to an intended position, the knob 13 is screwed further into the fixed body 1 such that the curved pads 3  
5 firmly hold the slide rod 2 in position as shown in Fig. 4, and the window is secured in the intended position.

In addition, referring to Fig. 2, L, the width of each curved pad 3, is smaller than the diameter of the slide rod 2 such that the curved pads 3 can protect the slide rod 2 from scratching effectively. And, H, the height  
10 of each curved pad 3, i.e. the vertical distance from the top of the engaging protrusion 31 to the lower end of the curved main body, is smaller than one half of the diameter of the transverse hole 11 so that the curved pads 3 can be easily positioned in the fixed body 1 via the transverse hole 11.

15 From the above description, it can be easily understood that the securing device of the present invention has advantages as followings:

1. The slide rod 2 is protected from scratching of the fixed support body 1 by the curved pads 3. And, the curved pads 3 can be easily fitted in the fixed body 1. Furthermore, because the ribs 32 are pressed against  
20 the inner sides of the fixed support body 1, the curved pads 3 can be held in position in the assembling process of the securing device.
2. Because the curved pads 3 are respectively held steady in the hole 12, and the cavity 111, the slide rod 2 can be easily passed through the

transverse hole 11 in the assembling process. And, with the help of the engaging protrusions 31, the curved pads 3 can't fall out of the fixed support body 1 when the slide rod 2 is being displaced.

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